



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/054519 A1

(51) International Patent Classification⁷: C21B 7/10

(21) International Application Number:
PCT/EP2004/053264

(22) International Filing Date: 3 December 2004 (03.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03104532.1 3 December 2003 (03.12.2003) EP

(71) Applicant (for all designated States except US): PAUL
WURTH S.A. [LU/LU]; 32, rue d'Alsace, L-1122 Luxem-
bourg (LU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SCHMELER,

Robert [LU/LU]; 15, rue Verte, L-3592 DUDELANGE
(LU). MOUSEL, Nicolas [LU/LU]; 8, rue des Aubépines,
L-3410 Dudelange (LU). THILLEN, Guy [LU/LU]; 136
route de Gilsdorf, L-9234 DIEKIRCH (LU).

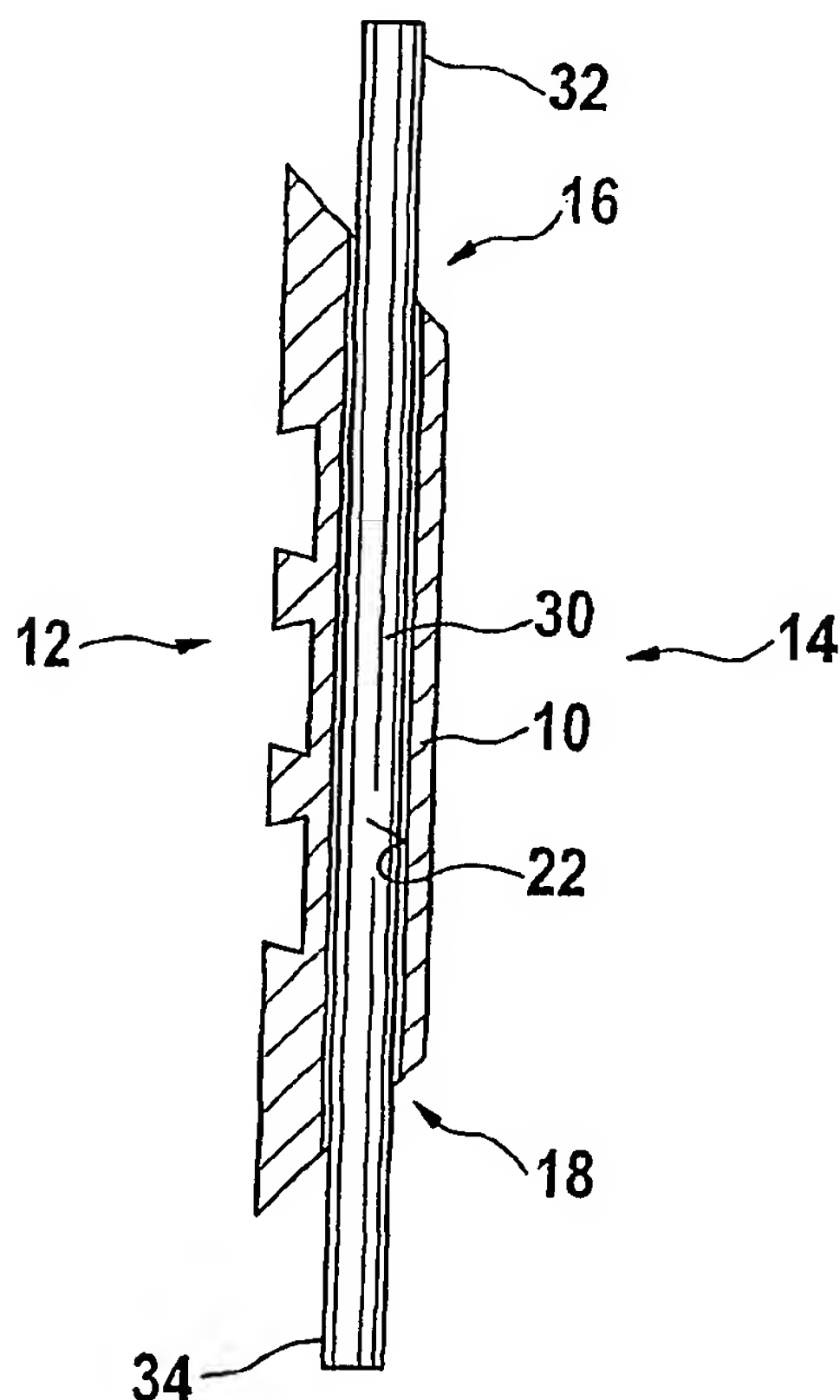
(74) Agents: SCHMITT, Armand et al.; Office Ernest T.
Freylinger S.A., B.P. 48, L-8001 Strassen (LU).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: METHOD OF MANUFACTURING A COOLING PLATE AND A COOLING PLATE MANUFACTURED WITH
THIS METHOD



(57) Abstract: A method of manufacturing a cooling plate comprises
following steps: providing a metallic plate body (10) with a front
face (12), a rear face (14) and at least one channel (22) extending
through the metallic plate body beneath the front face; inserting with
radial clearance a metallic tube (30) into the channel (22) so that both
tube ends (32, 34) protrude out of the channel (22); and achieving a
press fit of the tube (30) within the channel (22) by shrinking the sec-
tion of the channel (22) by means of a metal-forming process applied
to the plate body (10).

BEST AVAILABLE COPY



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

BEST AVAILABLE COPY